

VERMONT 2005 GUIDELINES FOR ENERGY EFFICIENT COMMERCIAL CONSTRUCTION CODE COMPLIANCE WORKSHEETS

BUILDING ENVELOPE WORKSHEET

Office Building

10 Energy Way, Megawatt City, VT 05555

Project Description

Site Address (street, town, ZIP Code)

CBES Standard Used



2005 VT Guidelines For Energy Efficient Commercial Construction



ASHRAE Standard 90.1-2004

BUILDING ENVELOPE

Foundation Type: Slab on grade

Below-Grade Walls - Type & R-value: N/A

Slab-on-Grade - Type & R-value: unheated slab, R-10 perimeter for 48 inches

Floors over Unconditioned Spaces - Type & R-value: N/A

Roof - Type & R-value: Wood framed, R-38 fiberglass batts in attic

Above-Grade Walls - Type & R-value: Wood framed, R-21 fiberglass batts

Windows - Type & U-value: Wood framed, U-.32

Windows - SHGC: .40

Window to Wall Ratio (%): 18%

Skylights - Type & U-value: Glass, U-.60

Skylights - SHGC: .40

Skylight to Roof Ratio (%): 3%

Opaque Swinging Doors - U-value: U-.45

Note: Use of entire assembly U-values or area weighted average U, R, or SHGC values are acceptable

ADDITIONAL BUILDING ENVELOPE ENERGY FEATURES OR COMMENTS

1 roll up door with R-10 insulation

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MECHANICAL SYSTEMS WORKSHEET

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MECHANICAL SYSTEMS

Space Heating Fuel: Natural Gas

Space Heating System: Hot Air Furnace

Space Heating Size: 250,000 btu/hr

Space Heating System Efficiency: 90% thermal efficiency

Air Conditioning System: Split System, air cooled

Air Conditioning Size: 135,000 btu/hr

Air Conditioning Efficiency: 11 EER

Water Heating Fuel: Natural Gas

Water Heating System: Fuel fired storage unit

Water Heating System Size: 80 gallon unit, 165,000 btu/hr

Water Heating System Efficiency: 84% thermal efficiency

Ventilation System: Heat recovery ventilator

ADDITIONAL MECHANICAL SYSTEMS ENERGY FEATURES OR COMMENTS

Set Back Thermostats

INTERIOR LIGHTING POWER DENSITY WORKSHEETS

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LPD Standard Used

2005 VT Guidelines For Energy
Efficient Commercial
Construction

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☒ **Building Area Method** – *(Complete Building Area Method Section)*

☐ **Space-by-Space Method** – *(Complete Space-by-Space Method Section)*

Building Area Method Section

Interior Lighting Power Allowance (Building Area Method)			
Building Type	LPD (W/ft²)	Building Area (ft²)	Lighting Power Allowance (W)
Office	1.0	3000	3000
Total Interior Lighting Power Allowance (W)			3000

Interior Connected Lighting Power (Building Area Method)			
Luminaire Description	# of Luminaires	Watts Per Luminaire	Total Watts
3 Lamp F32T8 w/ electronic ballasts	30	93	2790
Total Interior Connected Lighting Power (W)			2790

Lighting Power Density is in Compliance if the Total Interior Connected Lighting Power (W) is less than or equal to the Total Interior Lighting Power Allowance (W)

Space-by-Space Method Section

Interior Lighting Power Allowance (Space-by-Space Method)

Building Type	Space Type	LPD (W/ft²)	Space Area (ft²)	Lighting Power Allowance (W)
N/A				
Total Interior Lighting Power Allowance (W)				

Interior Connected Lighting Power (Space-by-Space Method)

[illegible]

Lighting Power Density is in Compliance if the Total Interior Connected Lighting Power (W) is less than or equal to the Total Interior Lighting Power Allowance (W)

Space-by-Space Method Section

Additional Interior Lighting Power Allowance (Optional)

The Additional Interior Lighting Power Allowance is an optional section of the Space-by-Space LPD Method to be used only for specific purposes, such as decorative lighting or retail display lighting. The Additional Interior Lighting Power Allowance can only be used for its intended purpose and cannot be traded off to be used for general interior lighting power allowance.

Additional Interior Lighting Power Allowance (Space-by-Space Method)

[illegible]

Additional Interior Connected Lighting Power (Space-by-Space Method)

[illegible]

Additional Lighting Power Density is in Compliance if the Installed Power (W) is less than or equal to the Allowance (W) for each space or display the additional interior lighting power allowance is used for.